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ABSTRACT

This study examines the effects of both societal and university powerlessness on first-semester grades among a sample of university freshmen. Powerlessness is defined as the expectancy or probability held by the individual that his own behavior cannot determine the occurrence of the outcome or reinforcements that he seeks. The powerless scale was comprised of 8 items from Dean's alienation scale and 8 comparable items from the University Alienation Scale. A factor analysis of the scale data provided empirical grounds for distinguishing between the 2 sets of items and thus university and societal powerlessness were treated as independent variables. Factor scores were obtained on each dimension and all subjects who scored more than a standard deviation above or below the mean were selected for further analysis. The results of the analyses of variance revealed no statistically significant differences in academic achievement between high and low powerlessness subjects, regardless of whether societal or university powerlessness was considered. (Author/HS)

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EFFECTS OF POWERLESSNESS

ON FIRST SEMESTER GRADE POINT AVERAGE

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Abstract

This study examines the effects of both societal and university powerlessness on first semester grades among a sample of university freshmen. The powerless scale was comprised of eight items from Dean's alienation scale and eight comparable items from the University Alienation Scale. A factor analysis of the scale data provided empirical grounds for distinguishing between the two sets of items and thus university and societal powerlessness were treated as independent variables. Factor scores were obtained on each dimension and all subjects who scored more than a standard deviation above or below the means were selected for further analysis. A 2 x 2 analysis of variance was then conducted for each powerlessness variable with academic achievement as the criterion measure. The results of the analyses of variance revealed no statistically significant differences in academic achievement between high and low powerlessness subjects, regardless of whether societal or university powerlessness was considered.

EFFECTS OF POWERLESSNESS

ON FIRST SEMESTER GRADE POINT AVERAGE

A growing body of literature supports the view that the academic performance of college students is affected by a myriad of social and psychological influences. However, by concentrating their attention almost exclusively on cognitive variables such as academic aptitude, intellectual giftedness, or previous academic achievement, investigators have largely ignored the role of social factors as determinants and products of student performance (Boocock, 1966). Thus, research studies exploring how social forces influence and, in turn, are influenced by student academic performance are vitally needed.

Because it is thought by many sociologists and educators to be the core of much student unrest and frustration, powerlessness as a social dimension, has been the topic of several recent research studies (e.g., Bickford & Neal, 1969; Burbach & Thompson, 1971). Powerlessness, as the term is defined conceptually by Seeman (1959), refers to "the expectancy or probability held by the individual that his own behavior cannot determine the occurrence of the outcomes or reinforcements, he seeks [p. 784] ." Although data demonstrating the usefulness of Seeman's conceptualization are at present fragmentary, operational indices of powerlessness as experienced by students have been shown to be related to measures of social isolation, normlessness, despair, life dissatisfaction and attitude uncertainty (Simmons, 1966; Burbach & Thompson, 1971).

Of particular interest for the university are those studies which suggest the sense of powerlessness to be related to the acquisition of certain kinds of information and to academic achievement itself. For example, Seeman & Evans (1962)

found high powerless tuberculosis patients possessed significantly less health information than did low powerless patients. Seeman, in a series of follow-up studies, found the same powerlessness-knowledge relationship to hold for political knowledge in Swedish working males (1966), control-relevant information in prisoners (1963), and knowledge of nuclear affairs in Swedish students (1967). In educational settings, Bickford & Neal (1969) have shown that the learning of information with regard to students' immediate situation in a vocational center and to information pertaining to long-range planning and career preparation is unrelated to feelings of powerlessness. Epperson (1963), however, in a study of classroom powerlessness employing a sample of students from grades 3-12 found that powerlessness was positively related to low actualization of academic potential. Coleman (1966) in his study of equality of educational opportunity in the United States observes that "a pupil factor which appears to have a stronger relationship to achievement than do all the 'school' factors together is the extent to which an individual feels that he has some control over his own destiny." Viewed collectively, the findings of these studies suggest that experienced powerlessness may impede the learning of particular kinds of information and retard the academic performance of students in some kinds of educational situations.

From the viewpoint of the university, the most critical deficiency in the literature on powerlessness and academic achievement is the absence of studies dealing specifically with the effects of powerlessness on the academic performance of students in American colleges and universities. The present study was undertaken on the premise that there is a need for such studies. Its purpose is to examine the effects of both societal and university powerlessness on the first semester grade point average of a sample of university freshmen.

Method

Subjects

Subjects were randomly selected from the freshman class at an urban university located in the Northeastern region of the United States. Because admission standards are high at the university from which participants were selected, subjects in the present sample necessarily are homogeneous with respect to high school academic achievement. In fact, subjects averaged above the 90th percentile with respect to their academic rank in high school. Of the 428 subjects selected to participate, 352 (approximately 82%) contributed the data that are reported in the present investigation. Attrition was due to failure to respond to a mailed questionnaire (72 subjects) and failure to remain in school a full semester (4 subjects).

Instruments and Procedures

As a part of a wider assessment program, Dean's (1961) Alienation Scale and the University Alienation Scale (UAS)were administered by mail to all subjects in the selected sample. Reliability and Validity data for both scales are presented by Burbach (1972). In addition to scale data, each subject's sex was recorded and his first semester (freshman) academic grade point average (on a zero to four point scale) was obtained from the Office of Admissions and Records.

Preliminary Data Analysis

Eight powerlessness items from Dean's scale and eight comparable items from the UAS were selected for preliminary analysis. From Table 1 it is apparent that the major distinction between the Dean items and the UAS items is the specification of a context. Thus, the items from Dean's scale (i.e., Societal powerlessness)

are viewed as context free, while those taken from the UAS (i.e., University powerlessness) are regarded as context bound. According to Seeman (1959), however, where the research interest is on powerlessness as it occurs with reference to a specific social context, the matter should be empirically rather than conceptually resolved. The purpose of the preliminary analysis is to determine if the conceptual distinction between context-free and context-bound powerlessness is an empirically meaningful one.

If specifying a context has a major influence on observable response patterns, then the data should be resolvable into two distinct groupings, one corresponding to societal powerlessness, the other university powerlessness. One of the best statistical techniques of establishing dimensions for data matrices is that of factor analysis (Richards & McCandless, 1971). Factor analytic techniques provide models that are based upon dependencies inherent in the data, and are useful whenever the number of variables is too large to be interpretable by simpler statistical techniques, in fields of enquiry where there has been little exploration of the interrelationships among the measures being used, or whenever it is required to unravel a series of dependencies where there are no a priori patterns of causality apparent (Cattell, 1966a; Morrison, 1967). Empirically determined factors were extracted from the data matrix in the following manner.

1. A 16 x 16 matrix of correlations was generated and a principle components solution obtained using selected options of computer program BMD 03M (Dixon, 1965).

2. The first 16 eigenvalues of the unreduced correlation matrix were plotted in the serial order of their magnitudes. From this plot a scree test was performed according to procedures described by Cattell (1966b). The results of this test indicated that two factors were probably optimal for a parsimonious, yet complete, interpretation of the data.

3. Using selected options of BMD 03M, a two-factor solution was obtained with squared multiple correlation coefficients used as communality estimates (Harman, 1967).

4. The resulting two dimensions were rotated according to the varimax criterion.

The rotated principle axis factor loadings are shown in Table 1. It can be seen that "context-bound" items and "context-free" items form two relatively separate and cohesive groupings. Thus, the conceptual distinction between university and societal powerlessness is empirically meaningful as well. For the remainder of the present study both powerlessness dimensions will serve as independent variables of interest.

Insert Table 1 about here

Analysis

Once the advisability of viewing powerlessness as a duel construct was determined by the preliminary data analysis, a four-step data treatment was executed:

First, in order to provide adequate indices for university and societal powerlessness, individual scores based upon the rotated factor matrix were obtained. Once again, under selected options, BMD 03M performed the analysis. Thus, each subject was scored on two factor dimensions, one corresponding to university powerlessness (i.e., context bound), and the other to societal powerlessness (i.e., context free).

Second, product-moment correlation coefficients were computed for each pairwise comparison of university powerlessness, societal powerlessness, and academic achievement.

Third, all subjects who scored more than a standard deviation above or below the mean on university powerlessness were selected for further analysis. A 2 x 2 analysis of variance (sex x high or low university powerlessness) was conducted with academic achievement as the criterion measure (see Winer, 1962).

Fourth, as with university powerlessness, subjects who scored more than a standard deviation above or below the mean on societal powerlessness were selected for further study. A second 2 x 2 analysis of variance (sex x high or low societal powerlessness) was conducted with academic achievement as the criterion measure.

Results

Means, standard deviations, and intercorrelations of university powerlessness, societal powerlessness, and academic achievement, both broken down according to sex and for combined samples, are shown in Table 2. It can be seen that no linear correlations are significantly different from zero. Although not related to the research hypotheses under investigation in the present study, it is interesting to note that males scored significantly lower on the university powerlessness dimension than females ($\underline{t} = 2.59$; $p > .01$), but no other significant differences were found.

Insert Table 2 about here

The analyses of variance results untilizing only subjects scoring at the extremes of the powerlessness dimensions confirmed what was suggested by the linear correlation results: there were no statistically significant differences in academic achievement between high and low powerless subjects, regardless of whether context bound or context free powerlessness was considered (see Tables 3 & 4).

Insert Tables 3 & 4 about here

Discussion

Although there are clear indications in the literature that feelings of powerlessness may impede certain kinds of learning and prevent individuals from realizing their full academic potential, the results of the present investigation suggest that such effects are minimal for overall academic achievement among academically elite students in college. Although differences in mean academic achievement between high and low powerless students are in the predicted direction for both university and societal powerlessness, these differences are of small magnitude and statistically non-significant. At least two interpretations are consistent with these findings.

First, because the present sample includes only college freshmen who have already demonstrated a relatively high academic aptitude through their high school grade point averages, it can be argued that powerlessness is not a significant factor for learning in college among high ability students.

Second, it is possible to conclude that feelings of powerlessness interfere primarily with learning control-relevant information but not necessarily with information that has no immediate practical application (Seeman, 1963). The powerless individual fails to learn what is required to alter his social environment because he, in fact, believes himself incapable of influencing that environment. On the other hand, when faced with learning information that has no immediately foreseeable application, a powerless individual is on the same motivational footing as his less powerless counterparts. Thus, it is not that feelings of powerlessness interfere with learning per se, but that low powerless individuals take more advantage of stimulus cues related to practical knowledge.

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Table 1

Factor Structure of University and Societal Powerlessness

Scale Item	Factor		
	Unrotated Factor I Loadings	Rotated Factor I Loadings	Rotated Factor II Loadings
University Powerlessness Items:			
1. This University is run by a few people in power and there is not much the student can do about it.[a]	.62	.67	
2. The student has little chance of protecting his personal interests when they conflict with those of the University.[b]	.63	.65	
3. The administration has too much control over my life at this University.	.55	.63	
4. The faculty has too much control over the lives of students at this University.	.47	.56	
5. It is only wishful thinking to believe that one can really influence what happens at this University.[a]	.58	.55	
6. Students are just so many cogs in the machinery of this University.[c]	.64	.50	.40
7. Most of the time I feel that I have an effective voice in the decisions regarding my personal welfare at this University.	.41	.45	
8. More and more, I feel helpless in the face of what is happening at this University today.[a]	.53	.42.	.33
Societal Powerlessness Items:			
9. We are just so many cogs in the machinery of life.	.58		.62
10. There are so many decisions that have to be made today that sometimes I could just "blow up."	.41		.55
11. The future looks very dismal	.43		.47
12. We are so regimented today that there is not room for choice, even in personal matters.	.47		.45
13. It is frightening to be responsible for the development of a little child.	.32		.42
14. There is little chance for promotion on the job unless a man gets a break.	.44	.27	.37
15. Sometimes I have the feeling that other people are using me.	.30		.35
16. I worry about the future facing today's children.	.19		.35

Note.--All loadings below .25 are omitted.

[a] adapted from Neal and Rettig (1967).

[b] adapted from Neal and Seeman (1964).

[c] adapted from Dean (1961).

Table 2

Means, Standard Deviations, and Correlation Coefficients

for Males, Females, and Combined Samples

Variable	Mean	S.D.	Correlation with Societal Powerlessness	Correlation with Academic Achievement
For Males (N = 162)				
University Powerlessness	-.167	1.094	.12	.03
Societal Powerlessness	.056	.845		.08
Academic Achievement	2.765	.753		
For Females (N = 190)				
University Powerlessness	.143	.872	.04	-.01
Societal Powerlessness	-.047	.870		-.11
Academic Achievement	2.830	.701		
For Combined Samples (N = 352)				
University Powerlessness	.000	.992	.07	.02
Societal Powerlessness	.000	.860		-.02
Academic Achievement	2.800	.726		

Table 3

Means and Standard Deviations for Males, Females,

and Combined Samples

Sex	Powerlessness					
	High		Low		Total	
	Mean	SD	Mean	SD	Mean	SD
University Powerlessness						
Males	2.55[a]	1.0277	2.78[b]	.6445	2.70	.7957
Females	2.73[c]	.8891	2.69[d]	.9870	2.71	.9224
Total	2.66	.9383	2.74	.7858	2.71	.8545
Societal Powerlessness						
Males	2.56[e]	.9712	2.54[f]	.7784	2.55	.8791
Females	2.68[g]	.6700	2.89[h]	.5348	2.78	.6148
Total	2.62	.8223	2.72	.6784	2.67	.7171

[a] n = 17

[b] n = 32

[c] n = 26

[d] n = 20

[e] n = 29

[f] n = 25

[g] n = 32

[h] n = 28

Table 4

Analysis of Variance Summary

Source	df	MS	F
University Powerlessness			
Sex (A)	1	.0358	.048
Powerlessness (B)	1	.1859	.249
A X B	1	.4054	.542
Error (within)	91	.7478	
Societal Powerlessness			
Sex (A)	1	1.6339	2.871
Powerlessness	1	.2601	.457
A X B	1	.3760	.661
Error (within	110	.5691	